REMARKS

Minor amendments have been made to specification pages 1, 2 and 4 whereby certain obvious grammatical errors have been remedied as marked noting that no new matter was added by way of amendment.

In items 2 and 3, p. 2-3 of the Official Action, substantive rejections are raised to claims 1 and 2 in view of the Reimers reference.

1. Reimers discloses a design and method for making calendered, double side segment coated webs, wherein as a representative example for applying the technique of Reimers an electrode for lithium ion batteries etc. is mentioned;

2. Reimers teaches that the coating is applied in segments, and that the segments on opposite sides of the web are staggered;

and

3. Reimers further teaches that the staggering of 2 mm is most effective for preventing damage when the web is calendered.

Applicant submits the following arguments which are believed to at least substantially increase the understanding of the difference between the two references of record noting the November 15, 2007 Office Action.

The present invention focuses attention on the fact that a larger protuberance is formed at an edge of the starting side of coating rather than the ending side when an electrode active material layer is intermittently coated on a sheet-like collector. The present invention is characterized in that, upon coating an electrode active material layer on a sheet-like collector

intermittently, a first electrode active material layer intermittently formed on one surface of the sheet-like collector, and a second electrode active material layer intermittently formed on the other surface of the sheet-like collector basically have a positional relationship in which the electrode active material layers face each other, but the edges of the starting sides of both surfaces have a positional relationship in which the edges do not fully conform and neither do they totally separate each other (the shifted difference is 0.5 to 2.9 mm) while they are opposite to each other with the collector interposing between them.

In order to arrange the electrode active material layers on both sides of the collector in such a manner, the present invention specifies process, wherein a running direction of intermittently coating the first electrode active material layer on the surface of the sheet-like collector is directed toward the same direction as the running direction intermittently coating the second electrode active material layer on the ether surface of the same sheet-like collector.

According to the present invention, by the edges of the starting sides of both electrode active material layers having a positional relationship in which the edges do not fully conform and neither do they totally separate each other while they are opposite to each other with the collector interposing between them, concentration of an exceeding tension on one point can be prevented upon pressing. Hence, drop or other damage of the electrode active material layer, break or other damage of the collector or the like can be prevented.

Moreover, as a big difference of the present invention against Reimers, in the case that the starting sides of the electrode active material layers on both sides of the collector have the positional relationship with slight shift as mentioned above, the present invention is superior in the following points in comparison with the prior arts, in which a starting side of

an electrode active material layer on one side of a collector has a positional relationship with a slight shift with an ending side of an electrode active material layer on the other side of the same collector. Hence, the present invention has much higher effect to prevent drop or other damage of the electrode active material layer, break or other damage of the collector or the like.

Specifically, in a case that a collector is interposed between two electrode active material layers, wherein one surface has an electrode active material layer with a large protuberance on a certain place which causes big difference in thickness, and the other surface has an electrode active material layer with a lower protuberance or flatness at a position opposing to the large protuberance, at the moment that such a large protuberance is carried through between two press rolls, an exceeding tension is generated in the vicinity of a surface of the collector having thinner electrode active material layer or at the thinner electrode active material layer on the collector. By said tension, there is the possibility that the electrode plate having the layered structure comprised in the order of the electrode active material layer/the collector/ the electrode active material layer is damaged in such a manner that the collector is extended and broken, or the electrode active material layer is cracked, chipped and dropped due to shift or shear of stress generating in a hard electrode active material layer. These problems are particularly notable when a soft material is used for a collector. For instance, the above problems are likely to occur on a negative electrode using a copper foil.

Regarding this point, in the case when the edges of the starting sides of both electrode active material layers have a positional relationship to face each other with the collector interposed between them has smaller difference in thickness between the edge on one side and the edge on the other side than in the case when the edge of the starting side of an

electrode active material layer and the edge of the ending side of an electrode active material layer have a positional relationship to face each other with the collector interposed between them, tension applies equally on both sides of the collector upon pressing. Therefore, the present invention has much higher effect to prevent drop or other damage of the electrode active material layer, break or other damage of the collector or the like.

Among the above-mentioned three points in [B-1] mentioned by the Examiner, the first and the second points are actually disclosed in Reimers. That is, Reimers relates to a design and method for making calendered, double side segment coated webs, and teach that damage of the web upon calendaring can be prevented by staggering segments on opposite sides of the web.

It is mentioned in Reimers that leading edges of segments, trailing edges of the segments or both edges formed on opposite sides of the web have a positional relationship with a slight shift. However, Reimers calls an upper stream side as a leading edge and a lower stream side as a trailing edge based on a running direction of the web at each process of coating and calendaring. Thus, aligning leading edges or trailing edges in Reimers does not mean aligning a starting position of segment coating of one side of a web and a starting position of segment coating of the other side of the same web. Rather, Reimers only mentions to align a starting position of segment coating of one side of a web and an ending position of segment coating of the other side of the same web.

The detailed explanation of this point is as follows. Reimers explains segment coating on both sides of the web in col. 6, lines 35 to 64, Fig. la and Fig. lb. Firstly, a web is supplied from a supply spool 11, is subject to segment coating on one side and is taken up by a take-up spool 12. Next, the take-up spool 12 of the previous process is used as a supply spool 11 and

the other side of the web coated on one side is subject to segment coating. If the coating is controlled in this mariner, a starting position of segment coating on one side of the obtained web and an ending position of segment coating on the other side of the same web are aligned.

Side views in Fig. 3 (prior art) and Figs. 3b-3e (invention of Reimers) of Reimers depicts segments controlled by a series of coating procedure shown in Fig. la and Fig. 2b. Thus, the leading edge when carrying out a segment coating process on one side of a web and the trailing edge when carrying out a segment coating process on the other side of the same web are aligned to face each other interposing a collector.

In items 4 and 5, p. 3-4 of the Official Action, it is pointed out that Fukumura, U.S. Patent No. 6,027,835 discloses a secondary cell in which a wound electrode sheet is housed in a container and claims 3 and 4 of the present application can be easily conceived in combination with Reimers.

Fukumura discloses an electrode sheet having coated portions arranged intermittently on both sides, wherein edges of coated portions on both surfaces of a current collector are shifted. However, a method of intermittent coating is not mentioned in Fukumura. The above-mentioned coated portions arranged intermittently in Fukumura are formed in such a maimer that a peelable tape is preliminarily applied in a predetermined pattern on both sides of the current collector followed by coaling which covers the tape and the collector surfaces, thereafter the tape is peeled.

The present invention solves the problem due to a large protuberance on the starting side of coating by intermittent coating. Therefore, the point can be stressed in the Argument that Fukumura, which do not have such a protuberance at al, do not provide important

information to the present invention Further, we consider that claim amendment is not necessary.

Respectfully Submitted,

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